

## THE EFFECT OF MUSIC THERAPY TO DECREASE BLOOD PRESSURE, PULSE RATE, AND A RECOVERY TIME ON ONE DAY SURGERY PATIENTS

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### ABSTRACT

**Background:** Patients of One day surgery have a higher stress than elective surgery. Stress increases the response of the sympathetic response including pulse and blood pressure before surgery. Nurses should be able to decrease the sympathetic response. The purpose of the study was to analyze the effect of music therapy on patients of one-day surgery to decrease blood pressure, pulse rate, and a recovery period of conscious .

**Methods:** The study design was a quasi experimental with Randomized Controlled Trial design with double-blind. The samples were mostly patients undergoing One Day Surgery at the Hajj Hospital Surabaya treatment group of 20 people and 20 people with a comparison control group of men and women, respectively 10. Dependent variables were blood pressure, pulse rate, and time conscious patient recovers One Day Surgery. Independent Variable was music therapy. The questionnaire research instruments include State-Trait Anxiety Inventory (STAI), administered using MP4 Music through headphones; and monitor patients. Data analysis using a t - test ( $\alpha=0.05$ ).

**Results:** The results of the study in patients with ODS in RS Haji Surabaya between treatment and control groups showed a difference in mean decrease: 1) systolic pressure ( $p = 0.038$ ); 2) diastolic blood pressure ( $p=0.009$ ); and 3) pulse rate ( $p = 0.035$ ). Patients treated group experienced an average drop in systolic pressure of 9.35 mm Hg; the average decrease in diastolic blood pressure by 8.10 mm Hg; and decrease the average pulse rate of 8.05 times per minute. The results showed there wasn't differences in the average recovery time aware ( $p = 0.1515$ ) between the treatment and control groups. Patients treated group had an average recovery time of 9.85 min realized.

**Conclusions:** There are differences of decreased blood pressure, pulse rate, on one-day surgery patients among treatment and control group. There are not differences of recovery time on one-day surgery patients among treatment and control group.

**KEYWORDS:** Music, Blood Pressure, Pulse Rate, A Recovery Time One Day Surgery

### INTRODUCTION

Advances in science and technology affect the development of the surgical technique and anesthesia. This led to the shorter treatment after surgery. Nowadays more and more surgery procedure that can be done in one day (ODS). Surgery One Day Surgery is a surgical procedure that is planned for patients and go home on the same day <sup>1)</sup>. The main goal of surgery One Day Surgery is a surgical procedure that implementation of more effective and more economical, thus giving advantage to the patient, the hospital and the payer (third party pays) <sup>2)</sup>.

Patients who underwent surgery within 1 day (ODS) has only preparation in a short period of time, a bit of time orientation in the operating environment that is not known and isolated. These conditions lead to higher anxiety compared with the planned surgery (elective).

Several domestic and foreign research that studies the patient's anxiety before surgery. the British Journal of Anaesthesia (2009) reported a 38.3 % One Day Surgery patients experiencing anxiety prior to surgery <sup>3)</sup>. Pfister reported a total of 91 % of patients experiencing anxiety prior to surgery <sup>4)</sup>.

Anxiety is an unpleasant feeling of fear can not be justified and is often accompanied by physiological symptoms, perceived by the patient's pre -operative <sup>5,6)</sup>. Research shows that anxiety affects both physical and psychological <sup>7)</sup>. Anxiety also increases the sympathetic stress response resulting in hypertension, tachycardia, myocardial infarction, hyperventilation and panic. Prolonged anxiety responses affect anesthesia and surgery so that the operation can not be performed <sup>8)</sup>. The end result is highly dependent on the operating condition of the patient before surgery <sup>2)</sup>. Therefore the nurse as a person directly involved in patient care need to provide appropriate nursing interventions for clients prepare both physically and psychologically before surgery .

Nurses can apply the theory of Katherine Kolcaba comfort in providing the required comfort patients before surgery one day surgery. Nurses can perform fulfillment comfort (Relief) psikospiritual Patients included spared from anxiety, improves physiological parameters including blood pressure and pulse before surgery <sup>9,10)</sup>. Thus it can reduce the cancellation and outpatient surgical complications .

Many studies on the use of music as an intervention has been carried out in order assorted hospitals (oncology, obstetric, dental, gynecological, pediatric) have been studied since the 1990s. Cooke *et al.* In Australia and Ni, et.al in Taiwan reported that the music intervention to reduce anxiety prior to surgery and improve patient physiological parameters <sup>1,13)</sup> .

Music is one of the most effective techniques for sensory distraction that can promote relaxation <sup>1)</sup>. Music is a universal language for people who are very effective in the treatment of One Day Surgery as patients can do themselves and choose favored music while waiting for surgery .

The basis for the theory of music as justified by Thaut that stimualsi music as a mediation hearing by the perceptual response <sup>12)</sup>. Music improves the physical feeling and relaxation. Feelings of tension, heart palpitations often arise when operating in space awaiting preparation. Patients can eliminate feelings of tension, anxiety and fear by refocusing attention by listening to music that increases the relaxation response .

Fast operation and aims to minimize the tension short but very little attention to the stress response of the patient prior to the One Day Surgery <sup>3)</sup>. The general objective of the study analyzed the Effects of Music Therapy on the differences in blood pressure, pulse rate and time conscious patient recovers One Day Surgery. Specific Objectives: 1) To analyze the effect of music therapy on blood pressure and pulse rate of one-day surgery patients; 2) Analyze the effect of music therapy on patient recovery time realized one day surgery

## METHODS

This type of research is a quasi -experiment using a randomized design with a single -blind Controlled Trial. The population is all adult patients who underwent surgery at the Hospital One Day Surgery Haji Surabaya. Total

Population average of 20 people per month. The samples were mostly adult patients who underwent surgery One Day Surgery. The study sample grouped into intervention and control groups. Inclusion Criteria Sampling using the following samples :

- Age 18-60 years
- ASA I- III
- Entire operating procedure One Day Surgery
- Patients who underwent surgery in and out on the same day
- Entire type of anesthesia (local, regional, and general)
- Patients can read and write

Exclusion criteria sample as follows:

- Hearing loss or difficulty using headphones
- Patient surgery or eye and ear
- Was not able to complete the questionnaire themselves
- Patients who have a wait time of less than 45 minutes

Sample size was based on previous research studies taken as many as 40 people each group of 20 people with a number of men and women in each group on an equal number (same).

Dependent variable is the study patients before surgery Anxiety One Day Surgery. Independent variable is the use of music study prior to surgery One Day Surgery

The instrument used in this study are :

- Measurement of blood pressure, pulse and recovery time consciously using measurement results contained in the monitor screen
- Headphone
- Mp4 in volumes 12 to 14
- Musical which contains songs like patients

Music is given to patients in the set as follows :

- The type of music (genre) selected according to the type of song and singer that hits this time .
- Each song / music used is processed using a computer program for LINUX audacity. The song in the frequency of 44100 Hz, 32 bit float rhythm, intensity / audible -69 to - 10 db (average of -24 dB)
- Tools: Free Open Source Software For Gnu / Linux " Audacity "

Data Collection Method as follows:

- Grouping of samples according to the criteria in the control and treatment groups by a trained research assistant
- Before induction of anesthesia performed measurements of blood pressure and pulse rate to 1 before surgery
- Intervention group were asked to choose the type of music and songs based on the most preferred types of music and singers who supplied the team. then asked to listen to music through headphones for 30 minutes
- The control group performed measurements of blood pressure and pulse rate to 1 before surgery and then wait for 30 minutes and treated as a routine procedure
- Both groups performed measurements of blood pressure and pulse rate to 2 before surgery
- Upon completion of the operation the patient's blood pressure was measured pulse measurement and time conscious recovering after surgery

Management of data that has been collected is done sorting, editing, and tabulating. The data have been tabulated and then do:

- Normality test of data variables to be tested using the Kolmogorov Smirnov test
- Comparison of demographic characteristics between the treatment and control groups using Chi Square
- Effects of music therapy on blood pressure, pulse rate, and time to recover realized in both groups using the Independent t - test. The entire data analysis was performed using a 95 % confidence level ( $\alpha = 0.05$ )

## RESULTS

### Data Normality Test Results

Data normality test results showed all variables were normally distributed as shown in Table 1 below

**Table 1: Results of Normality Test Data using the Kolmogorov Smirnov**

| Variable                      | Kolmogorov Smirnov Test (p) |                         |
|-------------------------------|-----------------------------|-------------------------|
|                               | Control Groups (n=20)       | Treatment Groups (n=20) |
| systolic pressure (pre test)  | 0,612                       | 0,813                   |
| systolic pressure (pos test)  | 0,276                       | 0,199                   |
| Decreased systolic pressure   | 0,465                       | 0,139                   |
| Diastolic pressure (pre test) | 0,163                       | 0,757                   |
| Diastolic pressure (pos test) | 0,227                       | 0,692                   |
| Decreased Diastolic pressure  | 0,10                        | 0,784                   |
| Pulse (pre test)              | 0,276                       | 0,381                   |
| Pulse (pos test)              | 0,360                       | 0,089                   |
| Decreased pulse               | 0,409                       | 0,571                   |
| recovery period of conscious  | 0,013                       | 0,006                   |

### The Demographic Characteristics of Patients who Underwent the One Day Surgery (ODS)

Results in Table 2 shows the demographic characteristics of the patients in both groups were as follows :

- Comparison sex men and women in each group was the same, namely 1:1. In this study the number of male patients and women undergoing hospital ODS Haji Surabaya is the same in both groups respectively by 10 people. Results proportionality test group with Fisher's exact test showed no significant gender differences in the two groups ( $p = 1.000 > \alpha = 0.05$ )

- At the highest treatment group patients in the hospital ODS Haji Surabaya aged 18-29 years by 35 % (7 people). Control group of patients aged 30-39 years is the most by 35 % (7 people) and the least is that patients aged 60-66 years at 5 % (1 person). Proportionality test results with the Chi Square test groups showed no difference in age between the groups treated with the control ( $p = 0.685 > \alpha = 0.05$ ).
- In most patients the treatment group had high school ODS many as 14 people (70 %), the rest is elementary education as much as 3 people (15 %) and S1 2 people (10%). Patient education is the most educated control group S1 6 people (30 %) and the least is S2 1 (5 %). Proportionality test results with the Chi Square test groups showed no differences in education levels between treatment groups with the control ( $p = 0.123 > \alpha = 0.05$ ).
- The treatment group the majority of patients ODS work as self-employed as many as 8 people (40 %). In the control group the most is not working as many as 8 people (40 %). The results of the group with the proportionality test Chi Square test showed no difference between treatment groups work with the control ( $p = 0.077 > \alpha = 0.05$ ).
- Most of the treatment group were 19 men (95 %) are Muslims and the remaining 1 person (5 %) are Christian/Catholic. Patients in the control group is entirely Muslim. Proportionality test results with Fisher's exact test showed no difference between treatment groups with religious controls ( $p = 1.000 > \alpha = 0.05$ ).

**Table 2: Demographic Characteristics of One Day Surgery Patients in Hajj Hospital Surabaya, August-November 2013**

| Variable                        | Control Groups (n=20) |      | Treatment Groups (n=20) |       | P Value |
|---------------------------------|-----------------------|------|-------------------------|-------|---------|
|                                 | f                     | %    | f                       | %     |         |
| <b>Sex</b>                      |                       |      |                         |       |         |
| • Man                           | 20                    | 50,0 | 20                      | 50,0  | 1,000   |
| • Women                         | 20                    | 50,0 | 20                      | 50,0  |         |
| <b>Age (year)</b>               |                       |      |                         |       |         |
| 1. 18-29                        | 7                     | 35,0 | 6                       | 30,0  | 0,685   |
| 2. 30-39                        | 5                     | 25,0 | 7                       | 35,0  |         |
| 3. 40-49                        | 3                     | 15,0 | 2                       | 10,0  |         |
| 4. 50-59                        | 2                     | 10,0 | 4                       | 20,0  |         |
| 5. 60-66                        | 3                     | 15,0 | 1                       | 5,0   |         |
| <b>Education</b>                |                       |      |                         |       |         |
| 1. Not completed primary school | -                     | -    | 1                       | 5,0   | 0,123   |
| 3. Elementary School            | 3                     | 15,0 | 4                       | 20,0  |         |
| 4. Junior School                | 1                     | 5,0  | -                       | -     |         |
| 5. High School                  | 14                    | 70,0 | 5                       | 25,0  |         |
| 6. Diploma                      | -                     | -    | 3                       | 15,0  |         |
| 7. Bachelor                     | 2                     | 10,0 | 6                       | 30,0  |         |
| 8. Magister                     | -                     | -    | 1                       | 5,0   |         |
| <b>Job</b>                      |                       |      |                         |       |         |
| 1. Not Working                  | 2                     | 10,0 | 8                       | 40,0  | 0,077   |
| 2. PNS                          | 2                     | 10,0 | 3                       | 15,0  |         |
| 3. Farmers                      | -                     | -    | 1                       | 5,0   |         |
| 4. Entrepreneurs                | 8                     | 40,0 | 2                       | 10,0  |         |
| 5. Private                      | 6                     | 30,0 | 4                       | 20,0  |         |
| 6. TNI / Police                 | 1                     | 5,0  | -                       | -     |         |
| 7. Retirement                   | -                     | -    | 2                       | 10,0  |         |
| 1. 8. Teachers / Lecturers      | 1                     | 5,0  | -                       | -     |         |
| <b>Religion</b>                 |                       |      |                         |       |         |
| 1. Islamic                      | 19                    | 95,0 | 20                      | 100,0 | 1       |
| 2. Christianity / Catholic      | 1                     | 5,0  | -                       | -     |         |

Research results in Table 3 indicate the intended use of music for most patients the treatment group and the control is aimed at relaxation by 40 % (8 people) and the least is for the purpose of religious activities at 1% (5 people). The test results showed no difference in the intended use of music between the two groups ( $p = 0.724 > \alpha = 0.05$ ).

The type of music that is most preferred by patients treated group was nostalgic Indonesia by 25 %, campursari and new age (music band now) respectively by 20 %. Control group patients most most liked types of Indonesian pop music by 45 % (9 people). The test results showed no difference in the type of music most favored patients in both groups ( $p = 0.318 > \alpha = 0.05$ ) as shown in Table 3 .

Table 3 The purpose of use Music and Genre most preferred between the two groups patients of one-day surgery in Hajj Hospital Surabaya, in August-November 2013

| Variable                        | Control Groups<br>(n=20) |      | Treatment Groups<br>(n=20) |      | P Value |
|---------------------------------|--------------------------|------|----------------------------|------|---------|
|                                 | f                        | %    | f                          | %    |         |
| The purpose of the use of music |                          |      |                            |      |         |
| 1. Relax                        | 8                        | 40,0 | 8                          | 40,0 | 0,724   |
| 2. More Enjoy                   | 4                        | 20,0 | 5                          | 25,0 |         |
| 3. Charging time                | 2                        | 10,0 | 4                          | 20,0 |         |
| 4. Lowering stress              | 5                        | 25,0 | 2                          | 10,0 |         |
| 5. Activity religion            | 1                        | 5,0  | 1                          | 5,0  |         |
| Most preferably Genre           |                          |      |                            |      |         |
| 1. Campursari                   | 4                        | 20,0 | 2                          | 15,0 | 0,318   |
| 2. Dangdut                      | -                        | -    | 2                          | 10,0 |         |
| 3. Religions Islam              | 1                        | 5,0  | 1                          | 5,0  |         |
| 4. Indonesian Pop               | 3                        | 15,0 | 9                          | 45,0 |         |
| 5. Rock                         | 2                        | 10,0 | 1                          | 5,0  |         |
| 6. Western Pop                  | 1                        | 5,0  | -                          | -    |         |
| 7. Nostalgia Indonesia          | 5                        | 25,0 | 3                          | 15,0 |         |
| 8. Nowadays Music               | 4                        | 20,0 | 2                          | 10,0 |         |

The results of the data collection treatment group patients who had been given music therapy most (75 %) stated happy and fit with a given song, as much as 10 % stated that given all the favorite songs of patients, and only 5% of patients who expressed a fraction song played was his favorite (table 4) .

Table 4: Opinions of Treatment Group About Music Therapy Before One Day Surgery at Hajj Hospital Surabaya, in August-November 2013

| Opinions Patients                          | f  | %    |
|--|----|------|
| 1. Glad and listen to songs that fit given | 15 | 75,0 |
| 2. Favorite song All patients              | 2  | 10,0 |
| 3. Much of his favorite songs              | 2  | 10,0 |
| 4. Mostly small favorite song              | 1  | 5,0  |

#### Effect of Music Therapy To Decrease Blood Pressure and Pulse One Day Surgery Patients

Research results in Table 5 indicate a significant difference in mean blood pressure and pulse pre-test and post test treatment group ( $p = 0.000 > \alpha = 0.05$ ). Patients ODS In Hajj hospital Surabaya who received music therapy before surgery had an average systolic pressure of 131.10 (SD  $\pm$  19.34) mmHg and after music therapy decreased to 121.80 (SD  $\pm$  19.86) mmHg. Average diastolic blood pressure pre-test was 76.45 (SD  $\pm$  11.33) mmHg decreased to 69.30 (SD  $\pm$  11.94) mmHg.

Average pre-test pulse was 88.00 beats / min (SD  $\pm$  5.59) decreased to 80.60 beats / min (SD  $\pm$  3.73) .

In the control group found no significant difference in mean systolic pressure ( $p = 0.509 > \alpha = 0.05$ ), mean diastolic blood pressure ( $p = 0.876 > \alpha = 0.05$ ) and average pulse ( $p = 0.278 > \alpha = 0.05$ ). Systolic pressure is the average pre-test of 125.55 (SD  $\pm$  21.95) mmHg decreased slightly to 123.60 (SD  $\pm$  20.18) mmHg. Average diastolic blood pressure pre-test was 80.45 (SD  $\pm$  14.37) mmHg increased to 80.85 (SD  $\pm$  7.68) mm Hg. Similarly, the average pulse treatment group was 87.25 (SD  $\pm$  10.85) times / min decrease to 84.65 (SD  $\pm$  8.55) times / min .

**Table 5: Decreased Blood Pressure, Pulse Rate, and a Recovery Time on One Day Surgery Patients in Hajj Hospital Surabaya, August-November 2013**

| Blood Pressure and Pulse | Mean $\pm$ SD      |                    | t      | P value |
|--------------------------|--------------------|--------------------|--------|---------|
|                          | Pre test           | Pos test           |        |         |
| 1. Treatment group       |                    |                    |        |         |
| 1. Systolic (mmHg)       | 131,10 $\pm$ 19,34 | 121,80 $\pm$ 19,86 | 5,039  | 0,000   |
| 2. Diastole (mmHg)       | 76,45 $\pm$ 11,33  | 69,30 $\pm$ 11,94  | 4,338  | 0,000   |
| 3. Pulse (x / min)       | 88,00 $\pm$ 5,59   | 80,60 $\pm$ 3,73   | 8,130  | 0,000   |
| Control group            |                    |                    |        |         |
| 1. Systolic (mmHg)       | 125,55 $\pm$ 21,95 | 123,60 $\pm$ 20,18 | 0,674  | 0,509   |
| 2. Diastole (mmHg)       | 80,45 $\pm$ 14,37  | 80,85 $\pm$ 7,68   | -0,158 | 0,876   |
| 3. Pulse (x / min)       | 87,25 $\pm$ 10,85  | 84,65 $\pm$ 8,55   | 1,116  | 0,278   |

Results of independent samples t tests testing in Table 6 shows the differences in average systolic pressure ( $p = 0.039 < \alpha = 0.05$ ), diastolic blood pressure ( $p = 0.018 < \alpha = 0.05$ ) otherwise there is no difference in the average pulse rate ( $p = 0.062 < \alpha = 0.05$ ) between the treatment and control groups .

Average systolic pressure reduction in the treatment group was 9.30 (SD  $\pm$  8.25) mm Hg, while the control group of 1.95 (SD  $\pm$  12.94) mmHg. The decrease in mean diastolic blood pressure in the treatment group was 7.15 (SD  $\pm$  7.37) mm Hg, while the control group was 0.40 (SD  $\pm$  11.34) mmHg. Both groups experienced a decrease in the average pulse rate in the treatment group was 7.40 (SD  $\pm$  4.07) while the control group was 2.60 (SD  $\pm$  10.41) as shown in Table 6 .

**Table 6: The Mean Differences Decrease Blood Pressure and Pulse on One Day Surgery Patients in Hajj Hospital Surabaya, August - November 2013**

| Decrease           | Mean $\pm$ SD           |                       | t     | P Value |
|--------------------|-------------------------|-----------------------|-------|---------|
|                    | Treatment Group<br>n=20 | Control Group<br>n=20 |       |         |
| 1. Systolic (mmHg) | -9,30 $\pm$ 8,25        | -1,95 $\pm$ 12,94     | 2,141 | 0,039   |
| 2. Diastole (mmHg) | -7,15 $\pm$ 7,37        | 0,40 $\pm$ 11,34      | 2,496 | 0,018   |
| 3. Pulse (x / min) | -7,40 $\pm$ 4,07        | -2,60 $\pm$ 10,41     | 1,920 | 0,062   |

#### Effect of Music Therapy toward a Recovery Time One Day Surgery Patients

Results of analyzes using independent samples t-test in Table 6 showed no significant difference in the average recovery time in the hospital unconscious patient ODS Haji Surabaya between treatment and control groups ( $p=0.151 > \alpha = 0.05$ ). Patients who received treatment group music therapy has an average recovery time of 9.85 min realized (SD  $\pm$  13.45) was higher than the control group had an average recovery time of 5 min aware (SD  $\pm$  5.84) .

**Table 7: Differences in Average A Recovery Time One-Day Surgery Patients Between Treatment and Control Groups in Haji Hospital Surabaya, August-November 2013**

| Variable        | Mean $\pm$ SD             |                         | t      | P Value |
|-----------------|---------------------------|-------------------------|--------|---------|
|                 | Treatment Group (Minutes) | Control Group (Minutes) |        |         |
| A Recovery Time | 9,85 $\pm$ 13,45          | 5 $\pm$ 5,85            | -1,479 | 0,151   |

## DISCUSSIONS

### Effect of Music Therapy to Decrease Blood Pressure and Pulse One Day Surgery Patient

The results in Table 4 Patients research ODS In RS Haji Surabaya who received music therapy before surgery had an average systolic pressure of 133.10 mmHg, 76.45 mmHg diastolic and pulse average pre-test was 88.00 beats / min. In patients who did not receive music therapy before surgery had an average systolic pressure of 125.55 mmHg, 80.45 mmHg diastolic and pulse average pre-test was 87.25 beats / min .

This represents an average increase systolic blood pressure and pulse pre-test both the treatment group and the control. The increase was due to patients experiencing stress. Anxiety is a subjective response to stress. Anxiety is an unpleasant feeling of fear can not be justified and is often accompanied by physiological symptoms, perceived by the patient's pre -operative.

In response to stress the body secretes several hormones and neurotransmitters. This hormone is used to prepare the body to withstand stressors and mental and physical defense. Stress affects the hypothalamus which is responsible for the homeostasis of the body. Emotional stress such as anxiety before surgery led to an increased release of CRH (corticotrophic -releasing hormone) by the hypothalamus which causes an increase in ACTH and cortisol .

Stress also causes the response of the sympathetic nervous system to release catecholamines, epinephrine and norepineprin from the adrenal medulla and sympathetic neurons. Norepineprin released into the blood that binds to alpha receptors are mostly found in vascular smooth muscle causes muscle contraction. So that the reduced blood flow to organs and maximize blood flow to the brain, heart, skeletal muscle during stress. While epinephrine in the blood or produced by nerve works by binding to the beta - 1 receptors. Epinephrine causes the heart rate and kontraktilitasnya peningkatan that cause an increase in cardiac output during stress <sup>13)</sup>.

Almost every type of physical or mental stress results in increased secretion of adenokortikotropik hormone (ACTH) and 20 times in large numbers in a few minutes <sup>14)</sup>. The ill effects of these hormones and neurotransmitters can occur or decrease both prolonged stimulation <sup>13)</sup>. To avoid these negative effects in patients given treatment group music therapy to reduce stress .

This is according to the results of research in Table 5 which showed a significant difference in mean blood pressure and pulse pre-test and post-test treatment group ( $p=0.000 > \alpha = 0.05$ ). Average systolic pressure reduction in the treatment group (9.30 mmHg) greater than the control group (1.95 mmHg). The decrease in mean diastolic blood pressure in the treatment group (7.15) mm Hg greater than the control group (0.40) mm Hg. The decrease in the average pulse treatment group (7.40 times / min) was greater than the control group (2.60 times / min) .

The decrease in systolic pressure, diastolic and pulse rate due to the effect of music therapy were given. In this study, patients were given music therapy a preferred choice of song. According to Campbell that people who listen to music choices showed a decrease in cortisol secretion by 25 % <sup>14)</sup>. In general music waves cause vibrations that cause the



stimulus at the eardrum are transmitted to the CNS and then raises the HPA axis feedback. So the body systems including the cardiovascular system back to homeostasis .

Music therapy in the preoperative patient has the purpose to provide comfort patients before surgery and reduce stress. Music has the function of calming the mind and emotions that stimulate alpha and beta waves depress the CNS that affects relax and lull .

Research results in Table 5 shows the control group found no significant difference in mean systolic pressure, diastolic, and mean pulse rate ( $p > \alpha = 0.05$ ). Systolic pressure is the average pre-test of 125.55 ( $SD \pm 21.95$ ) mmHg decreased slightly to 123.60 ( $SD \pm 20.18$ ) mmHg. Average diastolic blood pressure pre-test was 80.45 ( $SD \pm 14.37$ ) mmHg increased to 80.85 ( $SD \pm 7.68$ ) mm Hg. Similarly, the average pulse treatment group was 87.25 ( $SD \pm 10.85$ ) times / min decrease to 84.65 ( $SD \pm 8.55$ ) times / min .

The decrease in blood pressure and pulse rate in the control group who did not undergo surgery meaningful. Patients were not given any intervention to reduce stress so that the decrease is purely natural response of the body there is a resistance against stress stimuli before surgery. Body's attempt to activate the HPA axis homeostasis and resulting in a negative feedback mechanism. Resulting in a slight decrease in systolic pressure, diastolic and pulse .

#### **Effect of Music Therapy Toward a Recovery Time One Day Surgery Patients**

Research results in Table 6 showed no difference in average years of conscious patients recovered ODS in RS Haji Surabaya between treatment and control groups ( $p = 0.151 > \alpha = 0.05$ ). Patients who received treatment group music therapy has an average recovery time of 9.85 min realized ( $SD \pm 13.45$ ), while in the control group who did not receive music therapy had a median time to recover aware of for 5 minutes ( $SD \pm 5,85$ ) .

It can be explained that in this study does not affect the music at all. On ODS type and dose of drugs given anesthesia is minimal. Type of anesthetic drug that short time and do engineering anesthetic medication (narcotics effects) are stopped before the operation was completed but still adequate analgesic drugs. So that when the operation is completed direct patient unconscious and not pain.

Period recovered quickly realized that one of the advantages of one-day surgery which reduces hospitalization time and reduce the risk of nosocomial infection. The selection of anesthetic drugs for premedication of one-day surgery cases had been kind of premedication drugs were not slow recovery when administered in the proper dosage. Similarly, the optimal anesthetic technique on the surgical One Day Surgery meets the following criteria: 1. Creating prime operating condition; 2.Recovery is rapid (rapid recovery); 3.minimal postoperative side effects; and 4. Creating patient satisfaction <sup>2)</sup>.

In addition, the anesthetic technique used should take a role in quality improvement and cost reduction, improving operating room efficiency, as well as a faster discharge of patients without any side effects.

#### **CONCLUSIONS**

Based on the results of the study can be summarized as follows :

- The effect of music therapy can decreased blood pressure and pulse rate of One Day Surgery patients in Hajj Hospital Surabaya
- The effect of music therapy can not differences in the average recovery time aware between the treatment and

control groups

Some of the things suggested are: For Institutional care should be: 1) adding music therapy as one of a series of standard operating procedures patient preparation prior to surgery; 2) provide the kind of music and songs and more varied or advise the patient to bring his favorite song to listen to when preparing operations

## ACKNOWLEDGEMENTS

I am grateful to my advisor, Professor Nursalam, for his guidance.

I am grateful to my field consultant this research, dr. Imam P, Sp.An, and for his guidance.

All nurse in recovery Room Hajj Hospital Surabaya for support and helping this research, so I would like to thank you very much

My work was facilitated by a Poltekkes Kemenkes Surabaya, Hajj Hospital Surabaya, I would like to thank you very much.

Thanks to all participants for their generosity

## REFERENCES

1. Cooke M., Chaboyer W. Schluter P. & Hiratos M. 2005. The Effect of music on preoperative anxiety in Day Surgery. *Journal of Advanced Nursing* 52 (1), p.47-55
2. Yendi, 2011. In the Surgical Outpatient Anesthesia Latest Controversy In Anesthesia In Adult Outpatient Surgery. [http://yendi\\_anestesi\\_blogspot.com/to\\_kee\\_patient\\_alive.html](http://yendi_anestesi_blogspot.com/to_kee_patient_alive.html). accessed 26 March 2013
3. Wetsch W. A., et al. 2009. Preoperative stress and anxiety in day-care patients and inpatients undergoing fast-track surgery. *British Journal of Anaesthesia*.p1-7. Accepted for publication: April 27, 2009. doi:10.1093/bja/aep136. <http://bja.oxfordjournals.org>. diakses tanggal 10 September 2012 jam 13.00
4. Pfister M., 2011. *Music Therapy for Preoperative Anxiety: Use of Music to Minimize Preoperative Patient Anxiety*. Harris College of Nursing and Health Sciences. School of Nurse Anesthesia.Texas Christian University. diakses .p1-24
5. Carpenito, L. J., 2004. *Nursing Care Plans & Documentation: Nursing Diagnoses and Collaborative Problems*, 4<sup>th</sup> Ed, Philadelphia: Lippincott Williams & Wilkins. P.665-668
6. Smeltzer, et.al. 2009. *Brunner and Suddarth's Textbook of Medical Surgical Nursing*. One Volume. Twelfth edition. Lippincott: Williams & Wilkins. p.442
7. Lee D., Henderson A. & Shum D. 2004. The Effect of music on preoperative anxiety in Hong Kong Chinese Day Patient. *Journal of Clinical Nursing* 13. p.297-303
8. Potter, P.A, Perry, A.G. 2005. *Buku Ajar Fundamental Keperawatan: Konsep, Proses, Dan Praktik*. Edisi 4.Volume 1.Alih Bahasa: Yasmin Asih, dkk. Jakarta: EGC. h. 1790
9. Kolcaba K., 2011. Comfort Theory. *Nursing Theories: a companion to nursing theories and models*. February 10.2011. [www.currentnursing.com/nursing\\_theory/comfort\\_theory\\_Kathy\\_Kolcaba.html](http://www.currentnursing.com/nursing_theory/comfort_theory_Kathy_Kolcaba.html). Diakses tanggal 30

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10. Wolf A. M., 2011. *Running Head: Comfort Theory and its Application to an Institution Wide Approach*. University of Virginia
11. [Ni CH](#), [Tsai WH](#), [Lee LM](#), [Kao CC](#), [Chen YC](#). 2011. Minimising preoperative anxiety with music for day surgery patients - a randomised clinical trial. *Journal clinical Nujrsing*. 2012 Mar.p.620-5.
12. Thaut M. 1990. *Neuropsychological process in music perception and their relevance in music therapy*. In *Music Therapy In The Treatment Of Adult With Mental Disorder* (Unkefer R., ed.), Macmilan New York, p.3-32
13. Corwin, J. E., 2009. *Pocket book pathophysiology*. *Interpreting Nike Budhi Subekti*. Ed.3. Jakarta: EGC, h.231-5
14. Campbell Don, 2002, *Mozart Effect: harnessing the power of music to sharpen the mind, improve creativity, and nourish the body*, interpreter Hermaya T., Second Ed., Jakarta: PT Gramedia Pustaka Utama, h. 70-89

